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EXAMINER	
SCHMIDT, MARY M	
ART UNIT	PAPER NUMBER
1635	19

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/380,932	FIRTH, GREG	
	Examiner	Art Unit	
	Mary Schmidt	1635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 March 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. *09/380,932* .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/11/02 has been entered.

2. Please note that the Examiner of Record has changed in the instant Application. Please address all future correspondence to Examiner Schmidt (see the concluding remarks below for information on how to reach the Examiner).

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Priority

4. As set forth in the previous Official Action mailed 08/27/01: Acknowledgment is made of Applicants' claim for foreign priority based on an application filed as EPO 98/42867 on March 21, 1998. It is noted, however, that Applicant has not filed a certified copy of the EPO 98/42867, March 21, 1998 application as required by 35 U.S.C. 119 (b). Because no amendments or remarks have been filed in response to the previous Official Actions mailed 08/27/01, 02/14/01 and 6/6/00, the rejection is maintained. Applicant must supply a certified copy in order to perfect the claim to priority. While it is noted that Applicant wrote in the response filed 12/12/00 (page 7) that "Applicant is in the process of obtaining a certified copy of EPO 98/42867 and will

forward the same to the Patent and Trademark Office as soon as possible", Applicant has not done so as of the filing of the most recent response on 3/11/02.

Oath/Declaration

5. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02. The rejection stands as set forth in the previous Official Actions mailed 6/6/00, 2/14/01 and 8/27/01. In the most recent response filed 3/11/02, Applicant writes on page 5 that "Applicant's attorneys are seeking to have executed a corrected declaration claiming priority to EPO 97301917.7 filed 21 March 1997 and PCT/GB98/00840 filed 20 Marcxh 1998 and will filed this as soon as it is received from the Inventor." Since the perfected oath has not been received accordingly, the requirement is maintained.

Claim Objections

6. Claims 1, 11, 14, 15, 16, and 21are objected to because of the following informalities: the claims specify the acronym VNTR, but do not provide the full-name to clarify the acronym. Appropriate correction is required.

Claim Rejections - 35 USC § 112

7.The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-10 and 26-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is indefinite for several reasons: Step (b) requires that each of the fragments of step (a) are ligated with an adaptor to form a mixture of adaptor-terminated fragments in which each 3'-end is blocked to prevent enzymatic chain extension. It appears from the specification that both terminal "ends" of the fragments will be ligated and it depends on how the fragments were made (ie. blunt end restriction enzyme digestion versus "sticky-end" restriction enzyme digestion, for instance) to determine how the adaptors are to be ligated. In any case, since the fragments will have uniform ends unless a mixture of enzymes is used to digest the genomic DNA, then the "adaptor-terminated fragments" of double stranded genomic DNA having an identical adaptor will be made via this step. In view of this interpretation, it is not clear the distinction between steps c) and d) which appear to divide the "adaptor-terminated fragments" in to two pools via a binding with an "adaptor primer" and either a VNTR-primer or an VNTR-antisense-primer. Since the "adaptor-terminated fragments" are double stranded DNA, and either strand could be considered to have a 5'-to-3' direction, and genes are located on both sides of the DNA ladder in genomic DNA (they don't all face the same direction), and adaptors are added to both "ends" of the fragments, how the methods steps arrive at the distinction between making a mixture of 5'-flanking VNTR amplimer and a mixture of 3'-flanking VNTR amplimer is not

clear. Furthermore, it is not clear whether steps c) and d) are intended to make single-stranded DNA's via amplification from the "adaptor-terminated fragment" double-stranded template. (These issues also pertain to instant claim 21.) It is further not clear in step (e) of claim 1 how the genomic DNA is then used as template using the "amplimers" of steps c) and/or d) since the structure of the "amplimers" is not clear for the reasons given above. Claims 2-10 and 26-27 are similarly indefinite for their dependency on claim 1.

Claim 9 is indefinite since it is not clear exactly how the metes and bounds of "the VNTR allele and its flanking sequences representative of those which manifest the trait of interest" is similar or differs from "the mixture of VNTR alleles and their flanking sequences representative of alleles which do not manifest the trait of interest". It is not clear whether both came from the same kind of mixture of VNTR alleles as made by the steps of claim 1, and if so, how the hybridisation would produce either "at least one match and/or at least one mis-match... to provide at least one VNTR allele or fragment thereof which is characteristic of the trait of interest." Does "the mixture of VNTR alleles and their flanking sequences representative of alleles which do not manifest the trait of interest" come from another species of genomic DNA than "the VNTR allele and its flanking sequence representative of those which manifest the trait of interest"? Or does the potential to match or mis-match rest solely in the use of a VNTR allele for one type of allele (the "trait of interest") which is expected to differ from a population of VNTR alleles which were made using internal primers (from claim 1) to a different VNTR allele (those which do not "manifest the trait of interest"). Specifically, since the method of claim 1 relies on amplification

of genomic DNA with specific primers, it is not clear the types of primers that are used to make the VNTR alleles populations from the "trait of interest" and the VNTR alleles that do not manifest the "trait of interest" so that the metes and bounds of these two populations is clearly defined in claims 6, 9 and 10.

Claim 2 lacks antecedent basis for "wherein step b) is performed by terminating each 3'-end of each fragment to prevent enzymatic chain extension, and ligating each 5'-end of each fragment to an adaptor, thereby forming a mixture of adaptor terminated fragments" since step b) specifically calls for a ligation step for the fragments in order to block the 3'-ends and prevent enzymatic chain extension. Therefore, the metes and bounds of any other "terminating step" are not clear and not supported by step b) of claim 1.

The antecedent basis in claim 4 of the "adaptor or primer used" is not clear since claim 1 recites several types of adaptors and primers.

In claim 26, "hybridsation" is misspelled.

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Claims 1-10 and 21 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey

to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

MPEP 2163 teaches the following conditions for the analysis of the claimed invention at the time the invention was made in view of the teachings of the specification and level of skill in the art at the time the invention was made:

> **The claimed invention as a whole may not be adequately described where an invention is described solely in terms of a method of its making coupled with its function and there is no described or art-recognized correlation or relationship between the structure of the invention and its function. A biomolecule sequence described only by a functional characteristic, without any known or disclosed correlation between that function and the structure of the sequence, normally is not a sufficient identifying characteristic for written description purposes, even when accompanied by a method of obtaining the claimed sequence....A lack of written description issue also arises if the knowledge and level of skill in the art would not permit one skilled in the art to immediately envisage the product claimed from the disclosed process....Generally, there is an inverse correlation between the level of skill and knowledge in the art and the specificity of disclosure necessary to satisfy the written description requirement....The written description requirement for a claimed genus may be satisfied through sufficient description of a representative number of species by actual reduction to practice..., reduction to drawings..., or by disclosure of relevant, identifying characteristics, i.e., structure or other physical and/or chemical properties, by functional characteristics coupled with a known or disclosed correlation between function and structure, or by a combination of such identifying characteristics, sufficient to show the applicant was in possession of the claimed genus.**

The instant invention rests on the knowledge of certain VNTR nucleic acid sequences from which to design primers for amplification of said alleles or variants of said alleles (ie. those sequences having mis-matches upon hybridization) from a pool of fragmented genomic DNA from any species. While numerous alleles are known in the art having a correlation to a physical trait such as disease, the knowledge of the nucleic acid sequences of these alleles would not

correlate to the knowledge of the nucleic acid sequences of any other unknown alleles in the genomes of any species. Although the genome of many species is being rapidly sequenced, and new alleles are being discovered having a correlation to different physical traits, this is basic research that is required in order to then design primers and carry out the claimed invention of identifying any VNTR amplimer from the genomic DNA of any species as broadly claimed. Furthermore, the Written Description Guidelines on page 42-43 provide the following which pertains to the instant invention: "The specification proposes to discover other members of the genus (of allelic variants of a known allele) by using a hybridization procedure. There is no description of the mutational sites that exist in nature, and there is no description of how the structure... (of the disclosed allele) relates.... The general knowledge in the art concerning alleles does not provide any indication of how the structure of one allele is representative of unknown alleles. The nature of alleles is that they are variant structures, and in the present state of the art the structure of one does not provide guidance as to the structure of others. The common attributes of the genus are not described. One of skill in the art would conclude that applicant was not in possession of the claimed genus [because a description of only one member of this genus is not representative of the variants of the genus and is insufficient to support the claim]." The portion in parenthesis does not directly relate to the instant claims since the instant invention is not drawn to allelic variants of one allele, but is drawn to methods of making populations of allelic variants for the further identification of variant pools of alleles from within said populations. However, the claimed invention requires the starting knowledge of the nucleic acid

sequences of known VNTR alleles from which to start. As the Guidelines further state on page 45, "[t]he nature of alleles is that they are variant structures where the structure and function of one does not provide guidance to the structure and function of others."

Using the analysis provided by the MPEP above, since the instant invention rests on the knowledge of the starting nucleic acids from which to amplify portions of genomic DNA, the specification as filed has not provided the specific identifying characteristics (ie. sequence structure primarily) of a representative number of such primers from which to amplify a representative number of any allele population known in nature so that one of skill in the art would recognized that Applicant was in possession of a representative number of species of such primers for amplification of genomic DNA from any species as claimed so that one of skill in the art could readily envisage the products claimed to show that applicant was in possession of the claimed genus of amplified VNTR alleles.

Furthermore, since not all potential VNTR's were clearly linked in the art to particular populations of organisms, ie. geographical ethnic pools of people, or people with certain medical diseases for instance, the correlation between any allele or VNTR allele potentially known in the art and the characterization of such an allele as "manifest" of the "trait of interest" as claimed in the instant claims was not clearly described at the time the invention was made for the breath claimed of any allele or any VNTR allele. Since (1) the instant invention rests on the background knowledge of specific allele sequences for amplification, (2) either a correlation to a specific physical trait was known for a specific VNTR target or further basic research was needed to

identify such a correlation, (3) any known potential VNTR allelic sequence does not constitute a representative number of species of the breath of any VNTR allelic sequence because of the known variant nature of alleles as described above and the inherent ongoing genetic restructuring that happens in nature over time, the conclusion follows that one of skill in the art would not have recognized that Applicant was in possession of the claimed invention drawn to methods and compositions comprising any allele or VNTR allele sequence for use in amplifying any genomic DNA as claimed for the reasons listed above. In short, Applicant was not considered to have been in possession of the representative number of species of the starting materials for the claimed methods or the claimed compositions derived from the disclosed methods.

Claim Rejections - 35 USC § 102

11. Claims 11-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Morgante et al., WO 96/17082, for the same reasons of record as set forth in the previous Official Actions mailed 08/27/01, 2/14/01 and 6/6/00.

Applicant's arguments filed 3/1//02 have been fully considered but they are not persuasive.

Applicants' traversal in section B of the response on pages 6-9 is not considered persuasive in overcoming the teachings of Morgante et al. because Applicant argues claim limitations not found in claims 11-15. Claims 11-15 are drawn to any isolated portion of genomic DNA of one or more members of a species of interest, said portion consisting

essentially of a representative mixture of alleles of a chosen VNTR sequence and their flanking on both sides and which is representative of that member or members; wherein the mixture of alleles is representative of those which manifest a trait of interest; wherein each member of the representative mixture of alleles has an adaptor at each of its 3'-end and its 5'-end; any isolated portion of genomic DNA of one or more members of a species of interest, said portion consisting essentially of a single VNTR allele and its flanking regions and an adaptor at each of its 3'-end and its 5'-end, said allele being characteristic of those which manifest a trait of interest; and any isolated portion of genomic DNA of a species of interest, said portion consisting essentially of a representative mixture of 3'-flanking regions of a chosen VNTR sequence, each member of the mixture carrying an adaptor at its 3'-end, and a representative mixture of 5'-flanking regions of a chosen VNTR sequence, each member of the mixture carrying the same adaptor at its 5'-end. Morgante et al. teaches these limitations as set forth in the previous Official Actions.

Applicant responds that "[a]t the outset it should be made clear that according to Applicant's invention genomic DNA is fragmented with one or more restriction enzyme in the method of Applicant's Invention. Subsequently, not only are the fragment ends provided with a single adaptor that ligates to both ends of all fragments, but they are also provided with termini that prevent 3' strand extension by a DNA polymerase. This is of particular importance because all molecules in this form are inert during PCR regardless of the presence of adaptor primer." Here Applicant is arguing claim limitations not found in the claims. Claims 11-15 are not method claims, but are composition claims. Applicant argues that "[u]nlike the method of

Morgante et al., therefore, neither linear nor exponential amplification of fragments is achieved and there is an absence of background generation of products." Applicant continues to describe a PCR process, the mechanism of which is nowhere found in the instant claims 11-15. Applicant then concludes that "[t]he rejection of claims 11-15 under 35 U.S.C. 102(b) over Morgante et al., WO 96/17082 should be withdrawn because the cited reference does not disclose every element of the claims." Applicant further links a method of making a composition to the composition of claims 11-15 and writes that "[w]hile Applicant acknowledges that the use of a unique method for preparation of a composition of matter does not ensure that the composition is itself novel that is nevertheless the case in the present situation." Applicant further points out how the methods of making the compositions in Morgante et al. differ from the methods disclosed in the instant specification. More specifically, Applicant writes that "[t]hus, the recitation of "consisting essentially of" in claim 11 does exclude "fragments of genome that do not contain the target microsatellite sequence."

In response, the instant claims are not product-by-process claims, so the language used to describe the nucleic acids in the instant claims is given its broadest possible meaning according to MPEP 2111.01. Applicant is reading specific method steps from methods described in the specification into the compositions of the instant claims. The MPEP specifically notes that "while the claims of issued patents are interpreted in light of the specification, prosecution history, prior art and other claims, this is not the mode of claim interpretation to be applied during examination. During examination, the claims must be interpreted as broadly as their

terms reasonably allow. This means that the words of the claim must be given their plain meaning unless applicant has provided a clear definition in the specification." (MPEP 2111.01) The specification as filed does not teach that the only genomic DNA from a species having the claimed "chosen VNTR sequence and flanking regions" is only derived from a specific method as Applicant is arguing. Applicant is reading specific product-by-process steps into the making of the claimed compositions. However, when the terms for "genomic DNA", "species", "VNTR", "alleles", etc. as claimed are given their broadest possible reasonable meaning in the art, it is not reasonable that the claimed compositions do not encompass those taught by Morgante et al. For instance, the "flanking regions" of the VNTR sequences claimed in claim 11, are not given specific structural limitations. In fact, the specification teaches that these flanking regions may be generated by any number of enzymes, so that the specification does not provide a narrow interpretation of the structure of the flanking regions either.

Applicant further argues that Morgante et al. does not teach the limitation "members of a species of interest." In response, Morgante et al. necessarily teaches "members of a species of interest" because they teach amplification of real VNTR sequences which are from a "species". Applicant further wrote that "Morgante et al., disclose a process in which the genomic DNAs of two individuals..." so it is unclear how when the limitation "species" is given its broadest possible meaning (MPEP 2111.01) that the genomic DNA of the individuals taught by Morgante et al. is not considered to be a member "species". It is clear from the instant specification that Applicant considers genomic DNA from any species of organism to be useful for the claimed

invention, and thus the specification does not further limit what is otherwise a scope of species that encompasses those taught by Morgente et al.

12. Claims 16, 22-23 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Nelson et al. for the same reasons of record as set forth in the Official Action mailed 08/27/01, 02/14/01 and 6/6/00. Claim 25 is newly considered since it was amended to claim dependency from claim 22.

First, claim 25 is drawn to a method for diagnosing a trait of interest comprising the step of identifying an allele which is linked to a trait of interest according to the method of claim 22, wherein said molecules of nucleic acid are contracted with an isolated portion of genomic DNA of one or more members of a species of interest, said portion consisiting essentially of a single VNTR allele and its flanking regions and an adaptor at each of its 3'-end and its 5'-end, said allele being characteristic of those which manifest a trait of interest. Instant claim 22 is taught by Nelson et al. for the reasons stated in the previous Official Actions. Nelson et al. further taught the claim 25 limitations of contacting the DNA with the genomic DNA of a species on page 13, col. 1: "the recovered DNA fragments, representing regions of identity-by-descent, are labeled and used to probe an ordered array of DNAs representing the entire genome." Nelson et al. thus further anticipate instant claim 25.

Applicant's arguments filed 3/11/02 have been fully considered but they are not persuasive.

Applicant traverses the rejection by stating that "Nelson does not disclose all elements of the claims and only treats genomic DNA, which the method of claim 16 involves nucleic acids which consist essentially of a mixture of polymorphic alleles. The recitation of "consisiting essentially of" in Applicant's claims does exclude genomic DNA as is apparent from the teachings of the specification providing context to the claims. In the context of the invention, the recitation of "consisting essentially of a representative mixture of 3'-flanking regions...." excludes genomic DNA because the presence of such genomic DNA would "materially affect the basic an novel characteristics" of the claimed invention."

In response, it is not clear how Applicant concludes that Nelson only teaches genomic DNA which does not "consist essentially of a representative mixture of 3'-flanking regions" since Nelson et al. taught on page 11 for instance that "enrichment for identical-by-descent DNA is achieved in two steps: (I) heterohybrids are purified by using a combination of a restriction methylase and methylation-sensitive endonucleases, (ii) heterohybrids that contain mismatches are nicked by the Escherichia coli MutHLS enzyme system...." and on pages 12 and 13 discusses the 3'-protruding ends that resist degradation by ExoIII. Nelson et al. thus teaches the 3'-flanking regions. Further, since the "consisting essentially of" language is considered "open" language, the 3'-flanking regions taught by Nelson et al. are contemplated by the open claim consisting essentially of a mixture of 3'-flanking regions.

Furthermore, Applicant is not giving the claims their broadest possible meaning as per MPEP 2111.01. However, broad claims are not specifically limited by the teachings of the

specification and must be examined over the entire scope referenced by the claims and not just that which is specifically disclosed in the specification.

Applicants' arguments have thus not overcome a *prima facie* showing of anticipation of the instant claims by Nelson et al.

Claim Rejections - 35 USC § 103

13. Claims 17-20 and 22-27 are further rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson et al., as applied to claims 16, 22-23 and 25 above, and further in view of Grist et al., and Aldhous for the same reasons of record as set forth in the Official Action mailed 08/27/01, 02/14/01 and 6/6/00.

Applicant's arguments filed 3/1//02 have been fully considered but they are not persuasive.

Applicants' traversal of the instant rejection rests on the assertion that the rejection "should be withdrawn because Nelson fails to teach the subject matter of independent claims 16 and 22 for the reasons set out above and because Grist et al. and Aldhous fail to make up for the deficiencies in Nelson."

Since the teachings of Nelson et al. are considered to anticipate all the elements of instant claims 16, 22-23, 25 and 26, and the supposed reasons why Grist et al. and Aldhous fail to further support a teaching of obviousness over claims 17-20, 24 and 27 have not been argued, the instant rejection is maintained.

14. Claims 1-10 and 21 are considered free of the prior art since the closest prior art cited above did not teach the methods of using primers for amplifying VNTR alleles from genomic populations as claimed in the method steps of claims 1-10 and 21.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Mary M. Schmidt*, whose telephone number is (703) 308-4471.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, *John LeGuyader*, may be reached at (703) 308-0447.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Analyst, *Kay Pinkney*, whose telephone number is (703) 305-3553.

JOHN L. LeGUYADER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600

M. M. Schmidt
May 24, 2002